



## Accredited testing-laboratory

**DAR registration number: DAT-P-176/94-D1**

**Federal Motor Transport Authority (KBA)  
DAR registration number: KBA-P 00070-97**

**Recognized by the Federal Communications Commission**

**Anechoic chamber registration no.: 90462 (FCC)**

**Anechoic chamber registration no.: 3463A-1 (IC)**

**Certification ID: DE 0001**

**Accreditation ID: DE 0002**

**Accredited Bluetooth® Test Facility (BQTF)**

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### Annex to Test report

**no. : 2-4883-33-02/08**  
**Type identification : AAD-3880003-BV**  
**Applicant : Sony Ericsson Mobile Communications AB**  
**FCC ID : PY7A3880003**  
**IC Certification No : 4170B-A3880003**  
**Test standards : 47 CFR Part 15**  
**RSS - 210 Issue 7**

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## Table of contents

<b>1</b>	<b>General information</b>	<b>3</b>
1.1	Notes	3
1.2	Testing laboratory	4
1.3	Details of applicant	4
1.4	Application details	4
<b>2</b>	<b>Technical tests</b>	<b>5</b>
2.1	Details of manufacturer	5
2.2	Test item(s) and test configuration	5
<b>3</b>	<b>Summary of Measurement Results and list of all performed test cases</b>	<b>6</b>
<b>4</b>	<b>Measurements and results</b>	<b>7</b>
<b>5</b>	<b>Annex A: FCC Part 15 Subpart B</b>	<b>8</b>
5.1	Conducted Limits	8
5.2	Receiver spurious emission radiated (Idle mode)	11
<b>6</b>	<b>Test equipment and ancillaries used for tests</b>	<b>15</b>
<b>7</b>	<b>Photographs of the Test Set-up</b>	<b>17</b>
<b>8</b>	<b>Photographs of the EUT</b>	<b>19</b>

## 1 General information

### 1.1 Notes

The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

#### Test laboratory manager:

2008-05-29

Jakob Reschke



Date

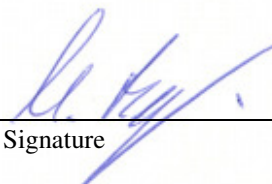
Name

Signature

#### Technical responsibility for area of testing:

2008-05-29

Michael Berg



Date

Name

Signature

## 1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10

66117 Saarbrücken

Germany

Phone: + 49 681 5 98 - 0

Fax: + 49 681 5 98 - 9075

e-mail: info@ICT.cetecom.de

Internet: http://www.cetecom-ict.de

**State of accreditation:** The test laboratory (area of testing) is accredited according to  
DIN EN ISO/IEC 17025  
DAR registration number: DAT-P-176/94-D1

**Accredited by:** Federal Motor Transport Authority (KBA)  
DAR registration number: KBA-P 00070-97

**Testing location, if different from CETECOM ICT Services GmbH:**

Name :  
Street :  
Town :  
Country :  
Phone :  
Fax :

## 1.3 Details of applicant

<b>Name:</b>	Sony Ericsson Mobile Communications AB
<b>Street:</b>	Nya Vattentornet
<b>Town:</b>	22188 Lund
<b>Country:</b>	Sweden
<b>Telephone:</b>	+46-46-19-3000
<b>Fax:</b>	+46-46-19-3295
<b>Contact:</b>	Peter Lindeborg
<b>E-mail:</b>	peter.lindeborg@sonyericsson.com
<b>Telephone:</b>	+46-46-212-6180

## 1.4 Application details

<b>Date of receipt of order:</b>	2008-05-26
<b>Date of receipt of test item:</b>	2008-05-26
<b>Date of start test:</b>	2008-05-26
<b>Date of end test:</b>	2008-05-29
<b>Persons(s) who have been present during the test:</b>	-/-

## 2 Technical tests

### 2.1 Details of manufacturer

Name:	Sony Ericsson Mobile Communications AB
Street:	Nya Vattentorget
Town:	22188 Lund
Country:	Sweden

### 2.2 Test item(s) and test configuration

No.: 1      FOMA AC ADAPTER      with      AAD-3880003-BV

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### 3 Summary of Measurement Results and list of all performed test cases

- No deviations from the technical specifications were ascertained
- There were deviations from the technical specifications ascertained

Section in this Report	Test Name	Verdict
5.1	Conducted limits CFR Part 15.207, 15.107 RSS 210, Issue 7, Section 6.6 , 7.4	Pass
5.2	Receiver spurious emission radiated (Idle mode) CFR Part SUBCLAUSE § 15.109 RSS 210, Issue 7, Section 7.3 Receiver Spurious Emissions (Radiated)	Pass

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## **4 Measurements and results**

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 20 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber.

The receiving antennas are conforming to specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test set-ups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received.

The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.4-2003 clause 4.2.

Antennas are conforming to ANSI C63.2-1996 item 15.

9 kHz – 150 kHz ,Quasi Peak measurement, 200 Hz Bandwidth, passive loop antenna.

150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, passive loop antenna.

30 MHz - 200 MHz: Quasi Peak measurement, 120 KHz Bandwidth, biconical antenna

200MHz - 1GHz: Quasi Peak measurement, 120 KHz Bandwidth, log periodic antenna

>1GHz: Average, RBW 1MHz, VBW 10 Hz, wave guide horn

All measurement settings are according to FCC 15.109 and 15.107

## 5 Annex A: FCC Part 15 Subpart B

### 5.1 Conducted Limits

#### Reference

FCC:	CFR Part 15.207, 15.107
IC:	RSS 210, Issue 7, Section 6.6 , 7.4

Limits: § 15.107 / 15.207

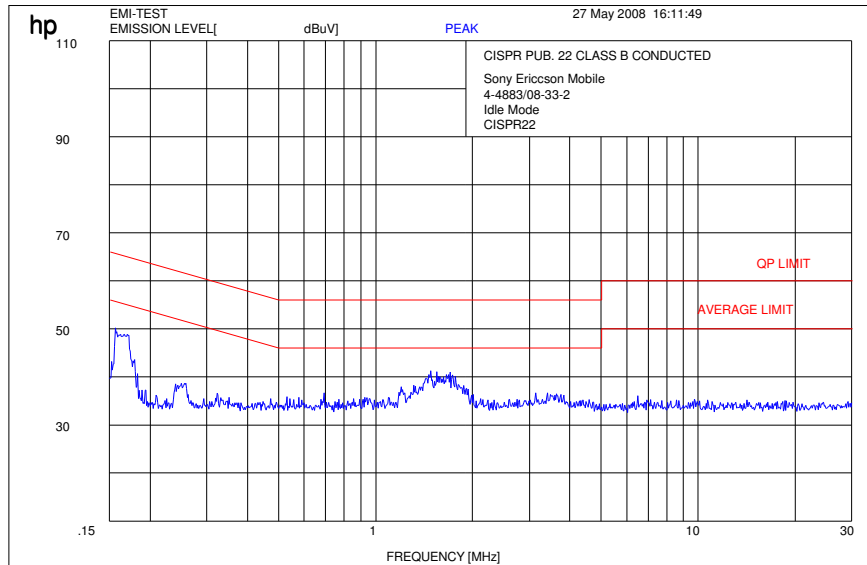
Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 - 30	60	50

\* Decreases with the logarithm of the frequency



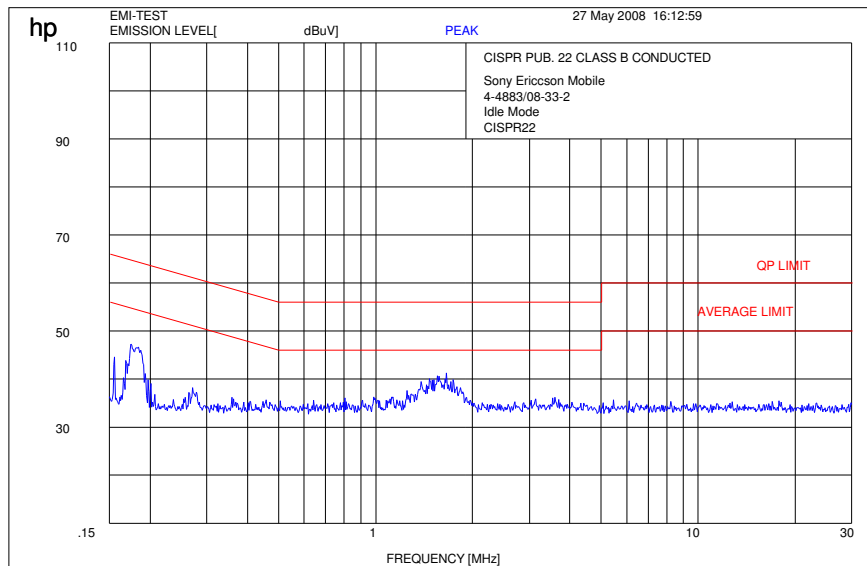
Plot 1: Neutral Line

Idle Mode: 150 kHz – 30 MHz



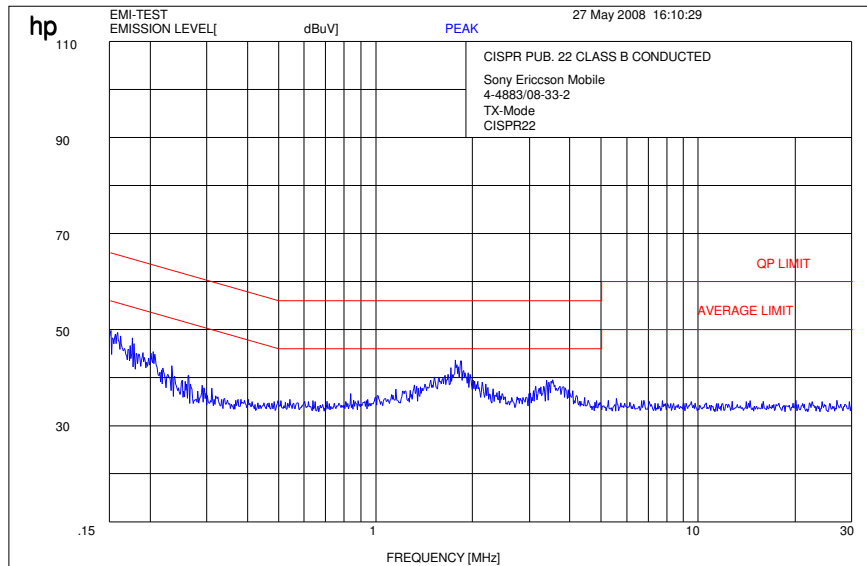
Plot 2: Phase Line

Idle Mode: 150 kHz – 30 MHz



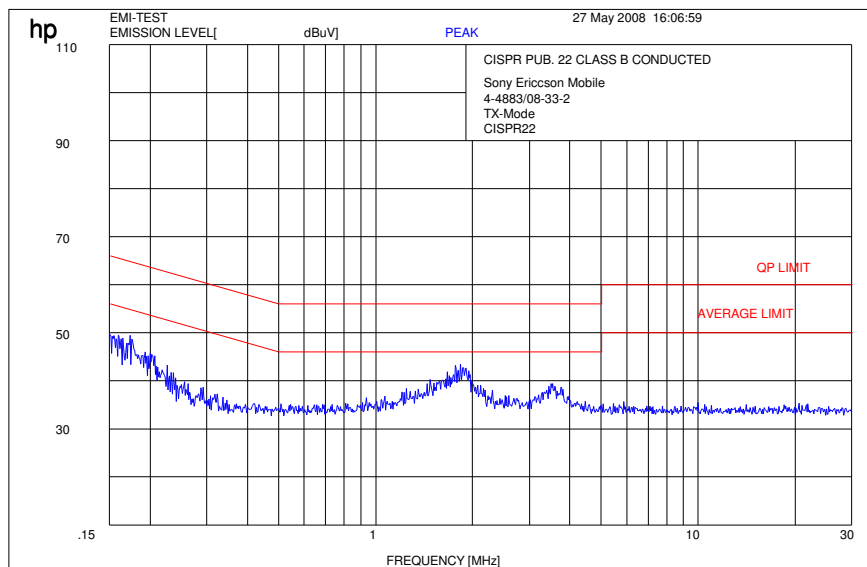
Plot 3: Neutral Line

Traffic Mode : 150 kHz – 30 MHz



Plot 4: Phase Line

Traffic Mode : 150 kHz – 30 MHz



**5.2 Receiver spurious emission radiated (Idle mode)**

**Reference**

FCC:	CFR Part SUBCLAUSE § 15.109
IC:	RSS 210, Issue 7, Section 7.3 Receiver Spurious Emissions (Radiated)

SPURIOUS EMISSIONS LEVEL ( $\mu\text{V/m}$ )								
Idle Mode GSM								
F [MHz]	Detector	Level [ $\mu\text{V/m}$ ]	F [MHz]	Detector	Level [ $\mu\text{V/m}$ ]	F [MHz]	Detector	Level [ $\mu\text{V/m}$ ]
No critical peaks found								
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW/VBW: 1 MHz

**Limits: § 15.109**

Frequency (MHz)	Field strength (dB $\mu\text{V/m}$ )	Measurement distance (m)
30 - 88	30.0	10
88 - 216	33.5	10
216 - 960	36.0	10
above 960	54.0	3

## Idle Mode (30 MHz - 1 GHz)

### Information

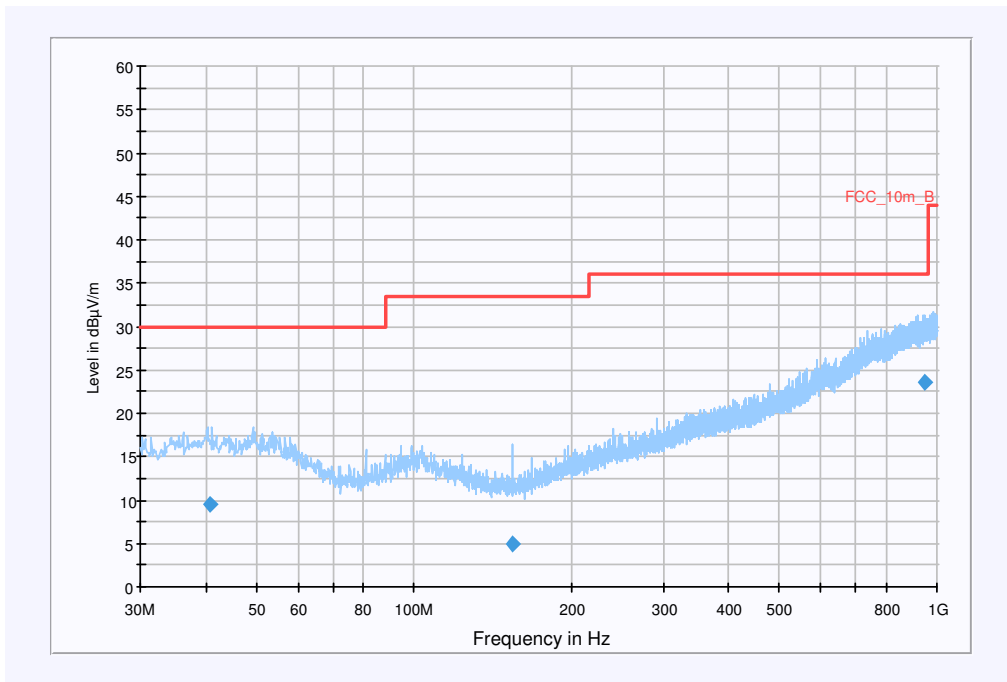
EUT: AAD-3880003-BV + MAS-BH0008-A 002  
 Serial Number: 004401072677012 + none  
 Test Description: FCC @ 10 m  
 Operating Conditions: Idle 1900  
 Operator Name: Folz  
 Comment: Powered with AC 115V/ 60 Hz

### Scan Setup: STAN\_Fin [EMI radiated]

Hardware Setup: EMI radiated\Electric Field (NOS)  
 Level Unit: dB $\mu$ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30MHz - 1GHz	QuasiPeak	120kHz	15s	Receiver

### FCC\_1GHz



### Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V/m)	Comment
40.632700	9.5	1000.000	120.000	120.0	H	126.0	13.6	20.5	30.0	
154.603100	5.0	1000.000	120.000	120.0	V	227.0	9.3	28.5	33.5	
944.238900	23.5	1000.000	120.000	120.0	H	142.0	26.4	12.5	36.0	

Hardware Setup: EMI radiated\Electric Field (NOS) - [EMI radiated]

Subrange 1

Frequency Range: 30MHz - 2GHz

Receiver: Receiver [ESCI 3]  
 @ GPIB0 (ADR 20), SN 100083/003, FW 3.32, CAL 07.01.2009

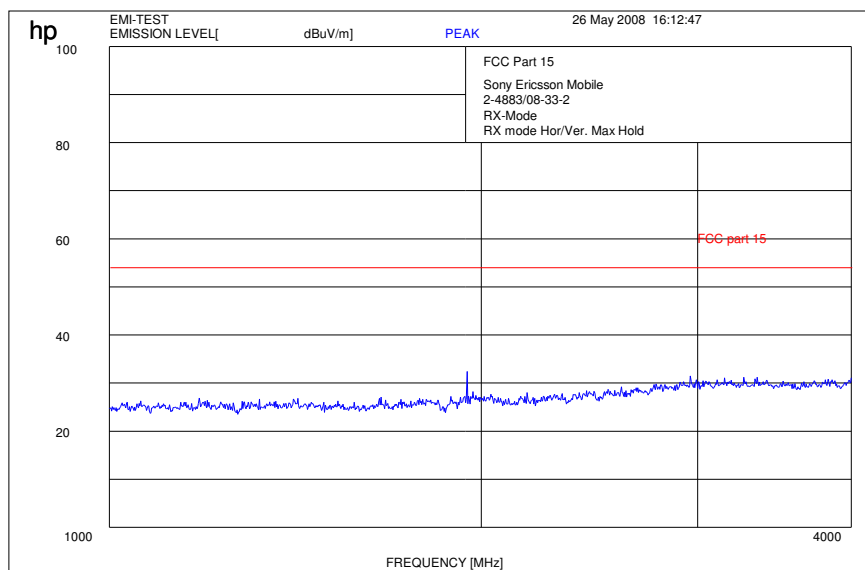
Signal Path: without Notch  
 FW 1.0

Antenna: VULB 9163  
 SN 9163-295, FW ---, CAL 08.04.2010  
 Correction Table (vertical): VULP6113  
 Correction Table (horizontal): VULP6113  
 Correction Table: Cabel with switch (0408)

Antenna Tower: Tower [EMCO 2090 Antenna Tower]  
 @ GPIB0 (ADR 8), FW REV 3.12

Turntable: Turntable [EMCO Turntable]  
 @ GPIB0 (ADR 9)

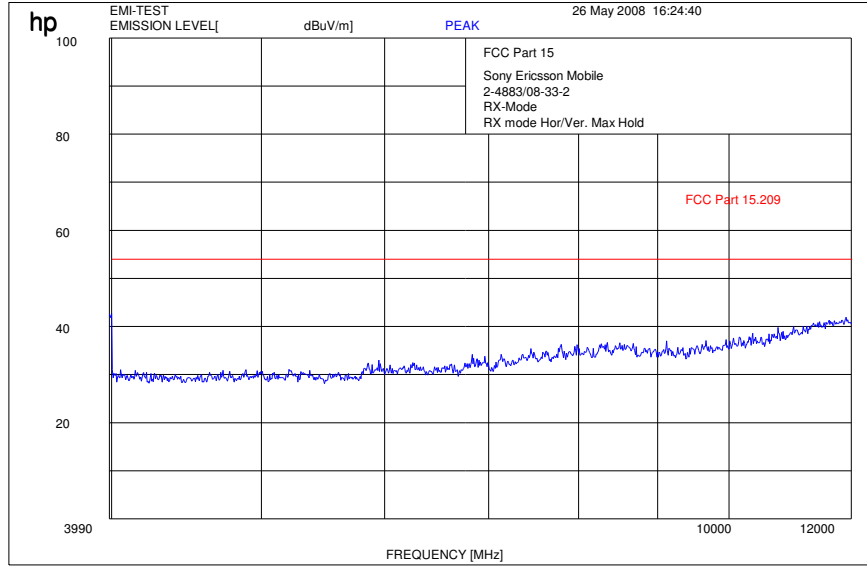
**Idle Mode (1 MHz - 4 GHz)**



$f < 1 \text{ GHz}$  : RBW/VBW: 100 kHz

$f \geq 1 \text{ GHz}$  : RBW / VBW 1 MHz

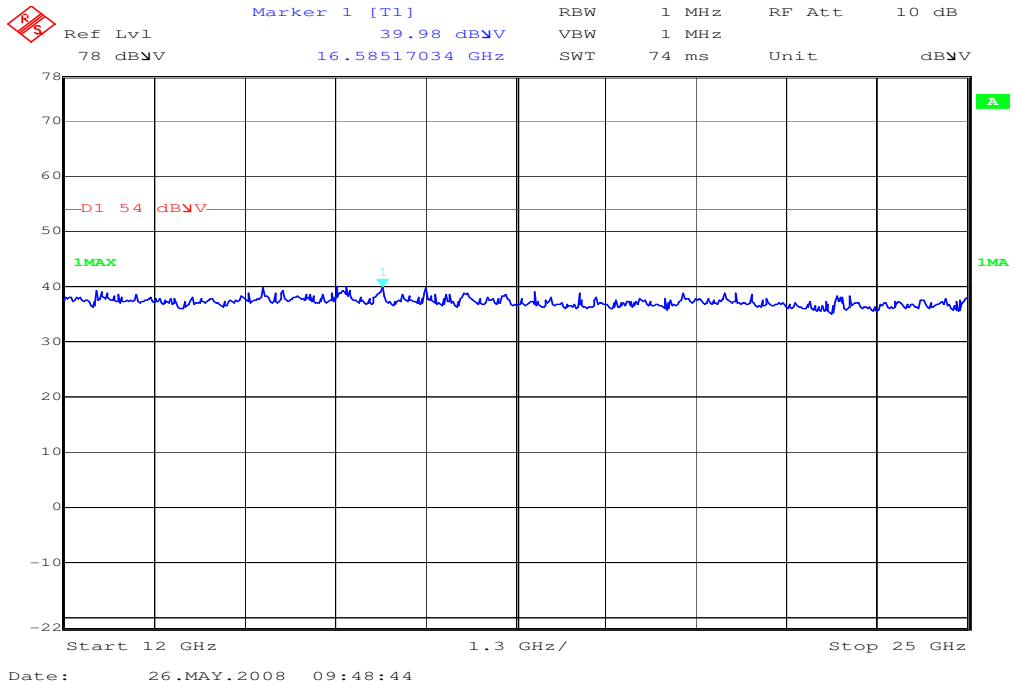
**Idle Mode (4 GHz – 12.0 GHz)**



f < 1 GHz : RBW/VBW: 100 kHz

f ≥ 1GHz : RBW / VBW 1 MHz

**Idle Mode (12 GHz - 25 GHz)**



## 6 Test equipment and ancillaries used for tests

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

### *Anechoic chamber C:*

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Anechoic chamber	MWB	87400/02	300000996	Monthly verification		
2	System-Rack 85900	HP I.V.	*	300000222	n.a.		
3	Measurement System 1						
4	Spektrum Analyzer 8566B	HP	2747A05306	300001000	05.10.2006	24	05.10.2008
5	Spektrum Analyzer Display 85662A	HP	2816A16541	300002297	05.10.2006	24	05.10.2008
6	Quasi-Peak-Adapter 85650A	HP	2811A01131	300000999	05.10.2006	24	05.10.2008
7	RF-Preselector 85685A	HP	2837A00779	300000218	08.11.2006	24	08.11.2008
8	PC Vectra VL	HP		300001688	n.a.		
9	Software EMI	HP		300000983	n.a.		
10	Measurement System 2						
11	FSP 30	R&S	100623	ICT 300003464	05.10.2007	24	15.10.2009
12	PC	F+W			n.a.		
13	TILE	TILE			n.a.		
14	Biconical antenna	EMCO	S/N: 860 942/003		Monthly verification (System cal.)		
15	Log. Period. Antenna 3146	EMCO	2130	300001603	Monthly verification (System cal.)		
16	Double Ridged Antenna HP 3115P	EMCO	3088	300001032	Monthly verification (System cal.)		
17	Active Loop Antenna 6502	EMCO	2210	300001015	Monthly verification (System cal.)		
18	Power Supply 6032A	HP	2818A03450	300001040	12.05.2007	36	12.05.2010
19	Busisolator	Kontron		300001056	n.a.		
20	Leitungsteiler 11850C	HP		300000997	Monthly verification (System cal.)		
21	Power attenuator 8325	Byrd	1530	300001595	Monthly verification (System cal.)		
22	Band reject filter WRCG1855/1910	Wainwright	7	300003350	Monthly verification (System cal.)		
23	Band reject filter WRCG2400/2483	Wainwright	11	300003351	Monthly verification (System cal.)		

### *Signalling Units:*

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	CBT	R&S	100313	300003516	24.10.2006	24	24.10.2008
2	CBT	R&S	100185	300003416	21.02.2006	24	21.02.2008
3	CMU-200	R&S	103992	300003231	27.04.2007	12	27.04.2008
4	CMU-200	R&S	106240	300003321	02.05.2006	24	02.05.2008

**Anechoic chamber F:**

No.	Instrument/Ancillary	Manufacturer	Type	Serial-No.	Internal identification
<b>Radiated emission in chamber F</b>					
F-1	Control Computer	F+W		FW0502032	300003303
F-2	Bilog antenna	Chase	CBL 6112A	2110	300000573
F-3a	Amplifier	Veritech Microwave Inc.	0518C-138	- / -	- / -
F-4b	Switch	HP	3488A	- / -	300000368
F-5	EMI Test receiver	R&S	ESCI	100083	300003312
F-6	Turntable Controller	EMCO	1061 3M	1218	300000661
F-7	Tower Controller	EMCO	1051 Controller	1262	300000625
F-8	Tower	EMCO	1051 Tower	1262	300000625
F-9	Ultra Notch-Filter Rejected band Ch. 62	WRCD		9	
<b>Radiated immunity in chamber F</b>					
F-10	Control Computer	F+W		FW0502032	300003303
F-11	Signal Generator	R&S	SML 03	102519	300003407
F-12	RF-Amplifier	ar	50W1000	12932	300001438
F-13	Directional Coupler	ar	DC 3010	12708	300001428
F-14	Logper Antenna	R&S	HL023A1	323704/016	300001476
F-15	RF-Amplifier	ar	60S1G3	313649	300003410
F-16	Directional Coupler	ar	DC7144A	312786	300003411
F-17	Horn Antenna	ar	AT 4002	19739	300000633
F-18	Power Meter	R&S	NRV	860327/024	F033
F-19	Power sensor	R&S	URV5-Z2	839080/005	300002844.02
F-20	Power sensor	R&S	URV5-Z2	830755/057	F032
<b>Harmonics and flicker in front of chamber F</b>					
F-21	Flicker and Harmonics Test System	Spitzenberger & Spies	PHE4500/B I PHE4500/B II	B5983 B5984	300000210
F-22	Control Unit	Spitzenberger & Spies	STE	B5980	300000210
F-23	Power Amplifier	Spitzenberger & Spies	EP 4500/B	B5976	300000210
F-24	Conect Panel	Spitzenberger & Spies	Conect panel	B5982	300000210
F-25	Power Supply	Spitzenberger & Spies	NT-EP 4500	B3977	300000210
F-26	Additional transformer	Spitzenberger & Spies	UT-EP 4500	B5978	300000210
F-27	Analyzer Reference System	Spitzenberger & Spies	ARS 16/1	A3509 07/0 0205	300003314
F-26	Power Supply	Hewlett Packard	6032 A	2920 A 04466	300000580